

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2003-225559  
 (43)Date of publication of application : 12.08.2003

(51)Int.Cl. B01J 20/02  
 C02F 1/28

(21)Application number : 2001-187465 (71)Applicant : JAPAN SCIENCE & TECHNOLOGY

CORP  
 SADENKO CO INC  
 INOUE KATSUTOSHI  
 YAMASO MICRON:KK

(22)Date of filing : 21.06.2001

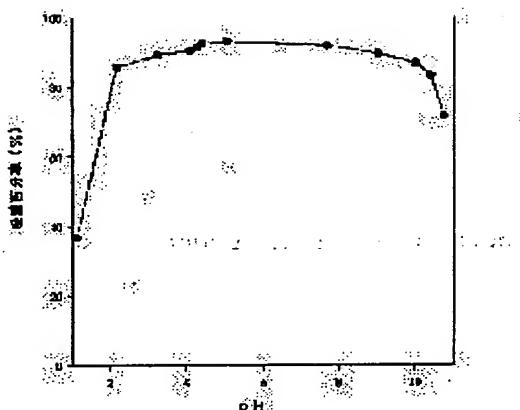
(72)Inventor : INOUE KATSUTOSHI  
 GIMIRE KEDARU NATO  
 MAKINO KENJIRO

## (54) ADSORBENT MADE FROM PLANT BIOMASS

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a technology for removing hazardous substances which can satisfy tight environmental regulations with an inexpensive adsorbent and simple operation.

**SOLUTION:** In this adsorbent, metal ions are carried on plant biomass mainly comprising cellulose and/or hemicellulose on which functional groups of an acidic phosphate ester are immobilized by reacting them with phosphoric acid. A preferable example as the plant biomass is a residue of squeezed orange. The adsorbent where a ferric ion is used as the carried metal ion is used for removing tervalent and pentavalent arsenic, pentavalent phosphorus, tervalent antimony, or tetravalent selenium. The adsorbent where a tetravalent cerium ion is used as the carried metal ion is used for removing a fluoride ion.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

- [Number of appeal against examiner's decision of rejection]
- [Date of requesting appeal against examiner's decision of rejection]
- [Date of extinction of right]